WORLD HERITAGE NOMINATION - IUCN SUMMARY

WET TROPICAL RAINFORESTS (NORTH-EAST AUSTRALIA)

Summary prepared by IUCN (March 1988) based on the original nomination submitted by the Government of Australia. This original and all documents presented in support of this nomination will be available for consultation at the meetings of the Bureau and the Committee.

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1. LOCATION:

The nominated area extends along the north-east coast of Queensland from just south of Cooktown to just north of Townsville, a distance of some 450km. It comprises 41 national parks, 43 state forests (or parts thereof), 15 timber reserves and one aboriginal and islander reserve. 15°39'-19°17'S, 144°58'-146°27'E

2. JURIDICAL DATA:

Apart from a small amount of freehold titled and aboriginal land under private control, land is publicly owned and comprises over 180,000ha under national parks, approximately 500,000ha under state forests, over 100,000ha under timber reserves, and over 100,000ha of leasehold and vacant crown land or federal-owned land used mostly by the defence forces. Total area is 920,000ha. (N.B. According to statistics held by the Queensland Government, the total area is 897,900ha).

3. IDENTIFICATION

The nominated area encompasses the main distribution of rainforest in northern Queensland and straddles three major geomorphic regions: the tablelands of the Great Divide, the lower coastal belt and the intermediate Great Escarpment. The geological history can be divided into three parts: formation of a relatively rigid and impermeable continental basement in the Palaeozoic; initiation of a north-west drainage in the Mesozoic; and intensified doming to the east in the late-Mesozoic-Caenozoic, culminating in continental rifting, ocean formation, and partial foundering of the new continental margin, the coast retreating to its present position by the late-Tertiary. Stepwise coastal retreat and formation of the present juvenile upland coast has led to stream reversal and slope failure. One of the most striking elements of the landscape is the Great Escarpment, which has retreated to its present position as a result of catastrophic erosion. The tablelands and some coastal areas were greatly disturbed by basalt flows throughout the Pliocene-Pleistocene.

Fringing reefs are extensively developed between Daintree and Bloomfield rivers, and their association with coastal rainforest to the extent that is manifest off Cape Tribulation is thought to be an unique feature. The reefs are part of the Great Barrier Reef World Heritage Site.

Wet tropical rainforest is predominant. It is fringed and to some extent dissected by sclerophyll forests, woodlands, swamps and mangrove forests. The rainforests support some 1,161 species of higher plants, representing 523 genera and 119 families. Of the genera, 75 are endemic to Australia and 43 are restricted to the region. Of the species, about 710 are Australian endemics and 500 occur only in this area. The region is a stronghold for Australian members of the Proteaceae, with 13 genera and 40 species locally endemic, including Placospermum coriaceum, one of the most primitive members of this family.

Faunal diversity is the highest in Australia, with 30% of marsupial species, 60% of bat species, 18% of bird species, 30% of frog species, 23% of reptile species and 62% of butterfly species present. Some 54 species of vertebrates are unique to the area.

Aboriginal occupation in the area is thought to date back to at least 40,000 years ago. The northern tribes (Barrineans) are considered to represent the first wave of the Aboriginal occupation of Australia.

The economy of the region has remained almost entirely dependent on primary production, but tourism has grown steadily since the 1950s.

4. STATE OF PRESERVATION/CONSERVATION

The condition of the forests ranges from relatively pristine to various stages of disturbances. Rainforest has been progressively cleared for timber, pastures and sugar cane plantations.Forests within national parks are generally in good condition. Much of the area under state forests or timber reserves is in virgin condition, having been inaccessible to logging, clearing and other disturbances. Lowland forests have mostly been isolated and fragmented by extensive clearing for agriculture and grazing. Large-scale alienation of rainforest has mostly ceased in the last 10-15 years. The importance of the rainforests in controlling run-off and siltation, and their scenic value gained recognition in the early 1960s, since when much greater emphasis has been placed on their intrinsic rather than utilitarian values. Since the mid-1970s, there has been growing public pressure for the complete preservation of the remaining rainforest in north Queensland.

Rainforest within the region amounts to 630,000ha, but only 14% of this is protected with national parks. The present national park system is considered inadequate, with less than 5% of many rainforest types protected. These include some of the rarest types, among which the mesophyll vine forest and notophyll vine forest that occur in beach sand are totally unprotected. Some areas are threatened by tin mining, agriculture and real estate developments. Other threats include: invasion of cleared and disturbed forests by Lantana camara and tobacco Solanum mauritianum; tree deaths caused by the woody vine Thunbergia grandiflora, introduced from northern India; outbreaks of soil fungus Phytophthora cinnamoni in logged areas, causing patch deaths of trees and shrubs; and feral pigs.

5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST

The Wet Tropical Rainforest nomination, as presented by the Government of Australia, provides the following justification for designation as a World Heritage property:

a) Cultural property

(iv) Extant Aboriginal rainforest culture. Aboriginal occupation dates back at least 40,000 years.

b) Natural property

(i) Earth's evolutionary history. Contains one of the most complete and diverse living records of the major stages in the evolution of land plants, from the very first land plants to higher plants (Gymnosperms and Angiosperms), as well as one of the most important living records of the history of marsupials and songbirds.

(ii) Ongoing geological processes. Levels of species diversity and endemism are exceptionally high, reflecting long-isolated ancient biota of the Australian wet tropics.

(iii) Exceptional natural beauty. One of the most significant regional ecosystems in the world, with outstanding features of natural beauty and magnificent sweeping landscapes. Exceptional is the coastal scenery, which combines tropical rainforest, white sandy beaches and fringing reefs just offshore.

(iv) Habitat of rare and threatened species. Provides the only habitat for numerous rare or threatened species of plants and animals.

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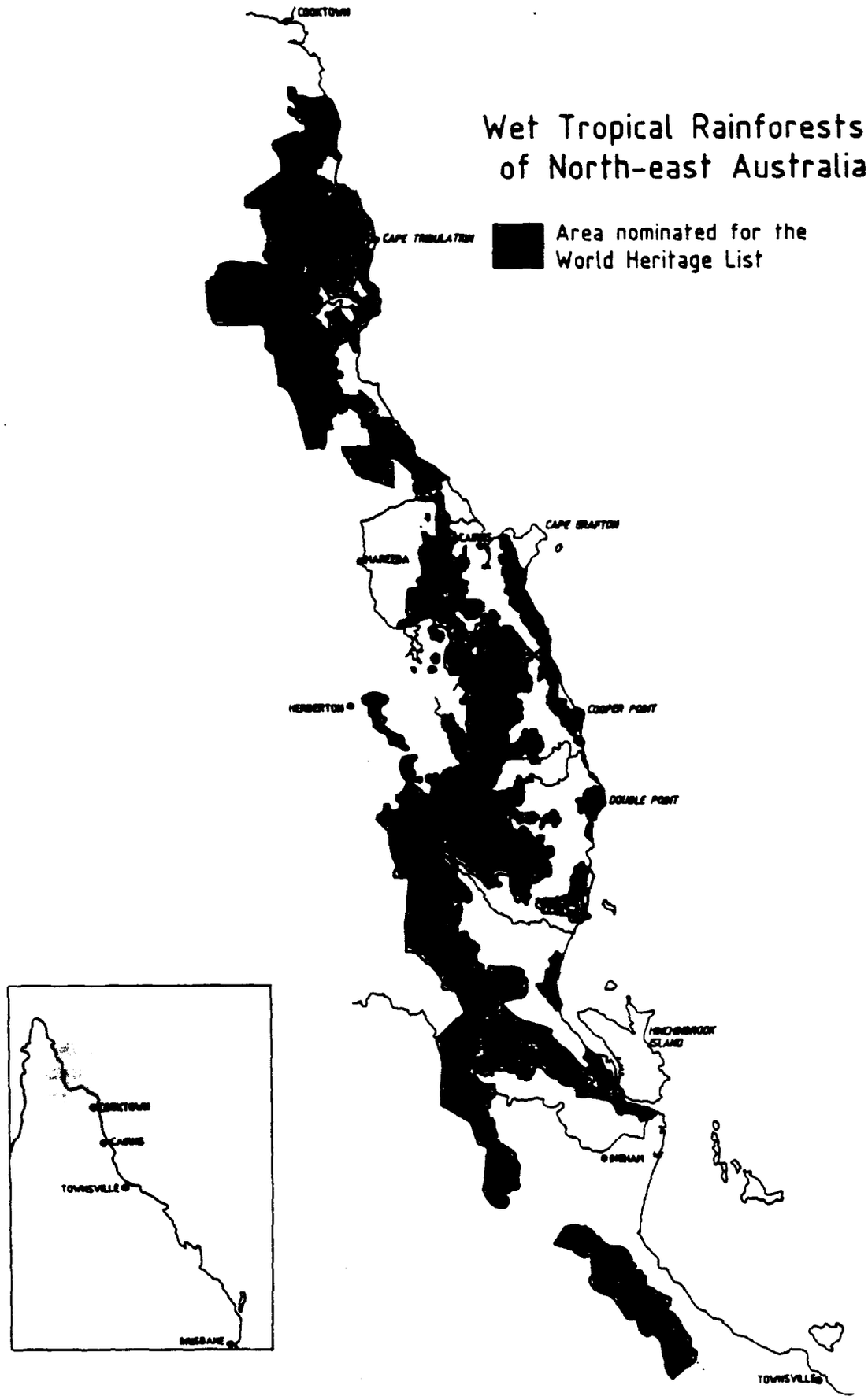
Wet Tropical Rainforests
of North-east Australia
Area nominated for the
World Heritage List
COOKTOWN
CAPE TRIBULATION
CAPE GRAFTON
CAIRNS
INNISFAIL
HERBERTON
COOPER POINT
DOUBLE POINT
HINCHINBROOK
ISLAND
TOWNSVILLE
COOKTOWN
CAIRNS
TOWNSVILLE
BRISBANE

WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

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1. DOCUMENTATION

i) IUCN Data Sheet

ii) Additional literature consulted: Tropical Rainforests of North Queensland, Rainforest Conservation Society, 1986; Rainforests of Australia, Mieir and Figgis 1986; The Blockade Report, 1987; Conservation and Management of Australia's Tropical Rainforests - Local Realities and Global Responsibilities Cassells et al. 1986; Evaluation of the Uniqueness and Ecological Integrity of the Queensland Wet Tropics, ANU Report 1988; DASETT, 1988. Report to the World Heritage Committee Secretariat, September.

iii) Consultations: Commonwealth and Queensland Government Officials, Shire Councils; Industry Representatives; ACIUCN; Conservation NGOs; and referee submissions from N. Gare, D. Cassells, R. Nias, M. Chilcott, I. Peter, P. Toyne, R. Hynes, D. Given, D. Lamb, P. Parker, G. McSweeney, N. Myers, B. Davis, O. Hamann, J. Diamond, P. Valentine, G. Mosely, and two reviews "in confidence".

iv) Site Visit April 1988, Jim Thorsell, Bing Lucas, Larry Hamilton

2. COMPARISON WITH OTHER AREAS

The tropical forests of Northern Queensland (TFQ) are small in size when compared to the rainforests of other parts of the world. The total extent of all the Australian rainforests accounts for only 1/5 of one percent of global rainforests. Despite their small size, but due to their many distinctive species, an estimated 5% of the earth's total rainforest species are found in Australian rainforests. On a world scale the TFQ have geographic affinities from a topographical and climatic basis with upland tropical forest localities in the upper reaches of the Amazon and Congo basins and in the uplands of the east coast of Madagascar, Brazil and New Guinea. The TFQ are tropical forests at their latitudinal and climatic limits and are thus floristically and structurally less diverse and less rich than those found in the large Indomalayan and Amazonian blocks. Unlike most other tropical evergreen equatorial forests the TFQ is subject to a short dry season which is another unique factor which influences its composition and structure.

The TFQ are distinct from other tropical forests in that they have a strong Gondwanic element with a large number of plant and animal taxa with primitive characteristics (notably amongst the angiosperms). In an evolutionary context, the TFQ are living floral and faunal museums, relicts of the Gondwana era of 100 million years ago. Some of these elements also occur in New Caledonia and to a smaller extent in New Guinea, but the TFQ are of greater significance on this score and also display a co-evolution with related sclerophyll floras.

The setting of the TFQ adjacent to a fringing reef is another unique feature found only in a few Pacific Islands, in Indonesia and Belize. In no other case would there be the prospect of a protected tropical forest World Heritage site alongside a major marine/reef World Heritage site

The size of the nominated property (8943 sq. km.) compares to other World Heritage rainforest areas as follows (in sq. km.): Darien (Panama) 5,970; Talamanca/Amistad (Costa Rica) 5,000; Rio Platano (Honduras) 5,000; Dja (Cameroon) 5,260; Tai (Côte d'Ivoire) 3,300; Manu (Peru) 15,328; and Salonga (Zaire) 36,000.

Within the Australian context, the TFQ region is a very distinctive bio-climatic/landform unit as has been demonstrated by the Australian National University's assessment of the area. Specifically, unlike much of continental Australia, the region has exceptionally steep environmental gradients and patterns and has the country's greatest variation in topographical relief. Compared to the sub-tropical and temperate forests found to the south in New South Wales, the TFQ contain a strong Indomalayan component and comprise more species. Within Australia, the TFQ contains the majority of the continent's bat and butterfly species as well as many other plant and animal species restricted to this one area. All these are indicators of the biological uniqueness of the area which sets it apart within the Australian biogeographic realm. Within the Queensland coastal biogeographic province, the forests in the area nominated are much better developed than the northern portion on Cape York which has a monsoonal climate, less rainfall and less topographic relief.

3. INTEGRITY

3.1 Human Impact

Human impact in the TFQ is relatively low compared to other tropical forest regions and in relation to other parts of Australia. The TFQ are still essentially intact, with 80% remaining of the estimated cover originally present at the time of the first European settlement. A substantial amount of lowland forest, however, has been cleared for agricultural purposes and much of the nominated area has been affected by selective logging (mostly of red cedar).

Also scattered through the area are a number of human disturbances that cumulatively detract from the overall natural integrity of the proposed site. These, however, account for a small proportion of the total size and most can be subject to restoration efforts. Some examples are transmission lines, quarries, abandoned mine sites, some recently heavily logged areas, hydrodams and some specific sites that have been subject to over-grazing and intensive recreational pressures. In addition, the Tribulation/Bloomfield road was such a serious intrusion, with heavy impacts on both the Cape Tribulation National Park and the Great Barrier Reef, that the Park was listed on IUCN's Register of Threatened Protected Areas of the World in 1984. Illegal logging of valuable forest trees has also been reported from within this part which further suggests that there is a need for improvements in management effectiveness. Other local management issues that need attention include invasions of exotic plants (e.g. soil fungi, Lantana) and especially feral pigs.

3.2 Boundaries

Apart from noting these general impacts, the key questions affecting integrity are related to the appropriateness of the boundaries and the prospects for implementation of an effective management regime.

The boundary as proposed has been determined by a systematic analysis undertaken by the Commonwealth with extensive input from scientists in CSIRO and from several universities and consultants. It basically corresponds to the remaining tropical forest cover and contains a diversity of tropical forest habitats from the warm/wet and the cooler/wet through to the warm/drier environments. A six months public review was undertaken where 4,000 briefs were received. This resulted in a refinement in definition and eliminated a number of inconsistent elements that did not significantly contribute to the overall values of the site.

Nevertheless, there are still some concerns over the boundary as provided. First, the boundary to area ratio is extremely high with a sinuous configuration that is some 2,600 km in length. The nature of the remaining forest blocks and patches as well as land tenure and cadastral boundaries are the main reasons for this, but management of the overall unit will be complicated.

Second is the question of the small isolates and outliers that are not connected to the main body of the unit. There are at least a dozen of these in addition to various narrow "fingers" that stick out from the main core. It is a general principle in conservation biology that there is a minimum critical size if a reserve is to retain its biological diversity, and that small areas isolated by modified habitats will behave like islands and gradually lose some of their original species. Minimum critical size for long-term maintenance of floral communities is much smaller than for faunal communities and extra effort will have to be devoted to these isolates if they are to remain viable. Provision for corridors where possible and intensive site management techniques are some compensation techniques to be considered for these scattered fragments.

A third item related to boundary assessment is the inclusion of previously logged forest in the nomination. Certainly extractive forestry operations within the nominated area have occurred and have resulted in some diminution in natural values. Clear cutting has not been undertaken but the selective nature of forestry operations still removes some 50% of the canopy and most large trees. Previously logged areas, especially those logged prior to the heavy industrial logging period, still retain important values but it is important to recognise that much of the area is not pristine and will take a long period to recover.

A fourth item which has been a contentious one is the inclusion of various forest types that are not strictly rainforests, particularly the narrow band of sclerophyll forest along portions of the western boundary. These areas represent the drier end of the rainforest spectrum and because of the influence of fire, act as a transition between rainforest and non-rainforest vegetation. Such zones are dynamic and important in terms of long term management, climatic change, and for certain rainforest fauna that use sclerophyll on a seasonal basis. The precise width and configuration of this western strip is affected by certain administrative boundary lines constraints. These ecotones are important not only for their intrinsic interest but as additional insurance of integrity under fluctuating climates.

These considerations made it appropriate to pay further attention to the boundary before the precise extent of the property is finalised and this was requested by the Bureau. This review was carried out over the June-September period by the authorities with an amended boundary submitted on 30 September.

This review essentially confirmed that from the scientific point of view, the previous boundaries were basically correct and only minor trimming has resulted. In total, two major excisions (Mt. Windsor and Paluma) were not considered advisable as both these areas contribute substantially to the nomination. A total of 67 smaller areas were studied in depth with the conclusion that 31 of these were excised, 8 were added and 28 were retained. An overall reduction in size from 9200 to 8943 sq. km. has been the end result of this process. Further refinements may be forthcoming before the Committee meeting.

A review of boundary options has also been conducted by the Scientific Committee of the Northern Rainforest Management Agency (NORMA). This Committee has collected a substantial amount of data and has constructed a geographic information system (GIS) for the region that will complement that developed by the Australian National University. Although the planning framework is directed to multiple use activities, including forestry, the data provides a valuable additional resource essential for future management. This report presents a zoning scheme which identifies areas within the nominated site that could be used for extractive uses and 3 core areas for full protection. This is an alternative management strategy that would fall under Unesco's Man and the Biosphere Programme but which would not be consistent with the proposed World Heritage status for the region.

3.3 Management Capability

Although the important question of a management framework for the area is not addressed in the nomination, a 29 page discussion paper on "Future Management Arrangements" has been presented by the Commonwealth for public review. The paper outlines a structure and detailed list of functions for a joint Commonwealth/Queensland management authority which would be established to administer the site. This new authority would be a central policy/planning/ management agency which would be based partially on the model of the Great Barrier Reef Marine Park Authority. One of its first tasks would be to undertake a management plan for the area. Generally, the discussion paper addresses all the concerns that IUCN would have and Australia's record in demonstrating high standards of management in other properties provides assurance that the regime, if put in place with the cooperation of the Queensland Government, would be an effective one. The response to this proposal from the public, and from the State Government, will be incorporated into a final proposal which has not yet been prepared.

Along with this proposal for a new Agency is a financial commitment of A$ 75 million. Up to A$ 17 million of this will be allocated to management of the nominated property over the next three years and the rest will go towards regional development associated with the site. The commitment of the Commonwealth Government is clearly demonstrated in the above two announcements.

IUCN, however, remains concerned over the position of the prime responsible management body and land owner - the State of Queensland. Although extensive consultations between the Commonwealth and Queensland governments have taken place since the Bureau meeting, there has been no joint agreement reached on the key questions of boundaries and management arrangement. Discussions, however, are still in process but prospects for resolution of differences are still uncertain. Should concurrence on these items still not be available by the Committee meeting, the Commonwealth has stated it will manage the property through the application of Federal laws and resources although cooperation with the State is still the preferred option.

4. ADDITIONAL COMMENTS

There are a number of secondary issues where clarifications were requested by the Bureau:

4.1 Aboriginal Land

A certain amount of land within the nomination is held under various titles (e.g. Deed of Grant in Trust) by various aboriginal councils. This land will continue to be used for traditional non-commercial purposes by the small number of local residents. This is parallel to the case in the existing World Heritage sites at Uluru and Kakadu, where the aboriginal communities are involved in and fully endorse the aims of the Convention in their area. The position of the aboriginal owners on the question of inclusion of their land within this nomination has not yet been formally presented. The Commonwealth, however, has noted that it will involve the aboriginal communities in future management of the area.

4.2 Private Land

Some 30 sq km (.33% of the nominated area) is privately owned and thus the responsibility of private owners. Most of this land is incorporated with the agreement of the present owners and because it is of vital importance in protecting key habitat as corridor linkages. Measures to ensure continued integrity of the site with the land owners will be a major issue to be addressed by the Rainforest Authority when it is set up.

4.3 Military Land

Some 1,020 sq km of land is Federal land used by the defense forces for jungle survival training. Some 1,000 troops per year use the facility. Exercises are all on foot with no machinery and no live ammunition and is judged to have very limited impact. The World Heritage Committee may wish to be kept informed of any change in the nature of, or expansion of, military use of the site.

4.4 Other Land Uses

Within the nominated property are a number of existing and proposed land uses that will require careful management to ensure they result in minimal damage to natural values. These include stock grazing, mining claims and a proposed extension of the Tully Millstream Hydroelectric scheme. Also the transfer of the management responsibility of Hitchinbrook Island from the Great Barrier Reef Marine Park would be a logical step. A major function of the new management authority will be to address these issues in the management planning process.

4.5 Name of the Property

In addition to rainforests which comprise the greatest proportion of the nominated area (approximately two-thirds), wet sclerophyll, mangrove, dune and swale formations also occur. These areas have high values as transition forests and as habitat for threatened species are part of the total mosaic which make up the wet tropics. A revised name (e.g. "Wet Tropics of Queensland") to better reflect the nature of the property should be identified. This has been agreed to by the Australian Authorities.

5. EVALUATION

The background documentation for the nomination of the Wet Tropical Rainforests of North-East Australia is the most comprehensive ever received for a natural World Heritage nomination. This reflects the property itself which has a very complex composition and is spread over a large geographic area. It is similar in many ways to the sub-tropical and temperate forest nomination from New South Wales where the separate units combine, like the chapters in a book, to reveal a pattern of evolution of great interest to science and of great importance to conservation. The general aggregate of the whole area adds up to display the biological richness and evolutionary story of the wet tropics of Queensland.

The property in general terms therefore merits inscription on the World Heritage list on the basis of the following criteria:

i) Earth's evolutionary history. The site contains a diverse living record of the major stages of earth's evolution, particularly within its Gondwana context.

ii) On-going biological evolution. As a centre of endemism for the region, the wet tropics provide fundamental insights into evolutionary patterns both in isolation from and in interaction with other rainforests.

iii) Exceptional natural beauty. Within the boundaries of the site are some superlative scenic features highlighted by extensive sweeping forest vistas, wild rivers, waterfalls, rugged gorges and coastal scenery. The site also provides a terrestrial continuum with the Great Barrier Reef.

iv) Habitat for threatened species. These wet tropical forests hold a largely intact flora and fauna with hundreds of species restricted within its boundaries.

Regarding the integrity of the property, the management arrangements for this are promising but have yet to be finalised. The two options are: (1) for a Federal/State Cooperative Management structure, and (2) for a Federal structure only. Option (1) would be highly preferable but IUCN feels this is a matter for debate within Australia.

In terms of size, the new boundaries are an improvement over those originally presented. Although management will still be a complex undertaking, the total size of the property is certainly adequate to meet the objectives of the Convention. Once again, final adjustments may be made over the next few months as consultations between the Commonwealth and the State are continuing and there is scope for further refinement prior to the Committee meeting.

6. RECOMMENDATION

The Bureau has recommended to the Committee that the site be inscribed on the World Heritage list. The following amendments and clarifications have been received from the Australian authorities as requested by 1 October:

a) Future management arrangements. By 1 October, the support of the State Government for a joint rainforest authority had yet to be secured but discussions were continuing. Of the two options available, a joint Commonwealth/State arrangement along the lines of the Great Barrier Reef Marine Park Authority would be the ideal. If agreement cannot be reached, a Federal structure would be put in place.

b) Boundary review. As requested by the Bureau, another review has taken place of the adequacy of boundaries and the total size has been reduced by approximately 2.8%.

Both of the above issues have received intensive study and discussion within Australia over the past four months. Although there may still be some modifications before the Committee meeting, it is the opinion of IUCN that the nomination should be approved and that the management authority proceed with its work to institute an effective management regime for the site. Secondary issues such as military, private and aboriginal lands can subsequently be addressed through the detailed management planning process set to begin once the site has been inscribed.

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